

An account of the ARACHNIDES of the United States.

By THOMAS SAY.

The following descriptions of the *Arachnides* of this country, which respire by means of trachea in the manner of insects, may be regarded as the continuation of a series of essays, of which the "account of the Crustacea," &c. is the first, on the vast orders of *articulated animals with articulated feet*, (*Annulosa* of Cuvier) natives of this country. As the nature of the journal precludes the introduction of old matter or known facts, I shall confine myself in its pages, to the description of such of these animals only, as appear to be unknown to naturalists, or to the elucidation of such, as from their obscurity, are not understood.

SUBCLASS I. CEPHALOSTOMATA.

ORDER 1st, Podosomata.

GENUS *ANAPHIA.†

Pl. 5. fig. 7.—*a* Trophi.

Artificial Character.—Mandibles longer than the rostrum, first joint longer than the second; palpi none; nails single.

Natural Character.—*Body* very slender, composed of four segments bearing feet, and a small sub-oval caudal process; *head* prominent, not perceptibly contracted behind, and consisting of a prolongation of the anterior segment of the body; *eyes* four,

† From *a*, without, and *ἀφή*, *tactus* the touch.

inserted on a common tubercle, upon the top of the head; *mandibles* robust, didactyle, inserted at the extremity of the head, pored, parallel, two-jointed, longer than the rostrum, first joint elongated attaining the tip of the rostrum; *hand* abruptly inflected upon the tip of the rostrum; *rostrum* pored, cylindrical, truncated at tip, shorter than the body, and inserted beneath the first segment; *palpi* none; *feet* eight, filiform elongated, slender; *coxæ* three jointed, the middle one longest; *thighs* one-jointed; *tibiæ* two-jointed; *tarsi* two-jointed, the first very short; *nails* single, arcuated, capable of being inflected.

SPECIES.—A. **pallida*. Body whitish; *ocular tubercle* acute at tip; *eyes* sanguineous; *hands* suboval, slightly hairy, not dilated, inflected vertically, and with the fingers, hardly more than two-thirds the length of the preceding joint; *fingers* arcuated, crossing each other near the tip; a small, rather acute tubercle at the base of the anterior feet (probably the rudiment of the egg-bearing organ;) *coxæ* second joint clavate; *tibiæ* first joint rather shorter than the second.

Length of the body 1-4 of an inch.

Span of the feet 1 1-2 inch.

Inhabits the coast of South Carolina.

Cabinet of the Academy.

Of this new genus I found two specimens in the bay of Charleston, S. C. upon the branches of the *Gorgonia virgulata*, and as they have not the egg-bearing organs, I suppose them to be males. This

animal resembles *Phoxichilus* in being destitute of palpi, but differs from it in having didactyle mandibles and simple nails. In the form of the mandibles it resembles *Nymphon* and *Ammothœa* but the want of palpi distinguishes it from those genera, its proper situation is probably next to the genus *Phoxichilus*. It, unquestionably, is generically the same with *Phalangium aculeatum* of Montague, (Trans. Lin. Soc. vol. 9, tab. 5,) which Dr. Leach, in the article *Crustaceology* of Brewster's *Encyclopædia*, refers to the genus *Nymphon*, but which, as far as I can discover, he has omitted in his subsequent works. It will of course be a second species of this new genus.

ORDER II. POLYMEROSOMATA.

FAMILY 2. SCORPIONIDÆ.

Genus BUTHUS. Leach. *Scorpio*, Latr.

Palpi brachiform, didactyle; eyes eight; abdomen terminated by a caudal process of six articulations, of which the terminal one is armed with a venomous aculeus.

SPECIES.—B. **vittatus*. Fuscous, with three fulvous vitta; sides black.

Inhabits Georgia and Florida.

Cabinet of the Academy.

Body above granulated, granules irregular, distant, three fulvous equal vitta, and an elevated, interrupted vertebral line; *sides* black, rugose, *beneath* white; *thorax* reddish brown, more scabrous before and be-

hind, hardly marked by the vitta, subemarginate before, and divided by a longitudinal impressed line, region of the dorsal eyes blackish; *palpi* longer than the body, with granulated lines, carpus with three or four of the granules more conspicuous; *hand* subovate, greatest diameter about equal to that of the preceding joint; *fingers* filiform, incurved, longer than the hand, reddish-brown, furnished with numerous minute teeth; *feet* paler than the palpi, minutely granulated above and beneath; *caudal process* colour of the palpi, longer than the body, with granulated costa, those of the penultimate segment not more conspicuous; *terminal segment* subovate, slightly mucronate beneath the aculeus, the costal granulae minute.

Length from tip of the palpi to tip of the caudal process, 1 inch and 7-10ths.

I found numerous specimens of this species on the sea islands of Georgia and in East Florida, hibernating beneath the bark of trees.

The wound inflicted by the puncture of their aculeus, causes much pain and intumescence, but is readily cured by the topical application of the volatile alkali.

The species to which *vittatus* is allied, are the *punctatus* of Degeer and *Americanus* of Linné, but according to Latrielle (v. Sonninis' Buffon) these are both spotted with brown, the caudal process of *punctatus* being of the length of the body and that of *Americanus* three times the length of the body.

It is, however, very possible that our species may be a variety of *punctatus*.

Genus CHELIFER. Geoff, Leach.

Palpi brachiiform, didactyle ; thorax with the first segment divided by a transverse indented line ; eyes two ; mandibles short.

SPECIES.—1. C. **muricatus*. Third joint of the palpi nearly three times as long as the second, linear, gradually a little attenuated to the base ; thorax muricated.

Inhabits North America.

Cabinet of the Academy.

Body ovate, narrowed before, rounded behind ; *thorax* black-brown opaque, gradually narrowed from the base to the tip of the mandibles, armed with numerous short, robust spines ; *feet* rufo-testaceous ; *palpi* rufous, basal joints subglobular, gibbous behind, third joint cylindrical, nearly three times longer than the second, armed with short rigid hairs, and gradually attenuated to the base, fourth joint shorter but somewhat larger than the preceding one, and gradually much attenuated to its base ; *hand* black-brown, above oblong-subovate, laterally linear, *fingers* as long as the hand, paler, incurved and furnished with a few elongated, flexible hairs ; *abdomen* above black-brown, and with the feet furnished with minute, spinelike hairs, segments margined with obsolete pale testaceous.

Length rather more than 1-10th of an inch.

Common in decaying wood, under bark, in houses, under stones, &c. I found a variety on the river St. John, in East Florida, of which the anterior portion of the abdomen and posterior part of the thorax is rufous. This species considerably resembles *C. Hermannii* of Leach, (Zool. Misc. vol. 3, p. 49.)

2. *C. *oblongus*. Second joint of the anterior feet hardly twice as long as the first, rather larger towards the base; thorax polished.

Inhabits North America.

Cabinet of the Academy.

Body oblong, sublinear; *thorax* reddish-brown, polished, testaceous at base, rather abruptly attenuated from the middle to the tip, and with abbreviated flexible hairs, instead of spinules; *feet* pale, testaceous; *palpi* reddish-brown, with dilated, short joints, and furnished with numerous flexible hairs, second and third joints subequal, the latter rather shorter and dilated in the middle; *hands* ovate, almost truncated at base; *fingers* shorter than the hand, and with a few longer hairs; *abdomen* above brownish, slightly hairy, polished, margins of the incisures testaceous. Smaller than the last.

Occupies the same situations as the preceding. It bears considerable resemblance, in the form of the palpi, to the *C. Geoffroyi* of Leach, (Zool. Misc. p. 50.) This species, as well as the preceding, are readily distinguishable from the *Phalangium acaroides* of Linne, by the mutic antepenultimate segment of the palpi.

March 1821.

ORDER 3. DUOMEROSOMATA.

FAMILY 2. PHALANGIDEÆ.

GENUS PHALANGIUM.

Body rounded; feet elongated; tarsi with numerous joints; mandibles salient much shorter than the body; eyes two, supported on a common tubercle.

SPECIES. 1 P. **vittatum*. Whitish, with a dorsal fuscous vitta; terminal joint of the palpi not pectinated with spines.

Inhabits the Southern States.

Cabinet of the Academy.

Body whitish, truncated and fuscous behind, a dorsal fuscous vitta from the clypeus to the cloaca and lateral fuscous line, above with dense, obtuse granules, beneath with distant ones; three profoundly impressed lines before the middle, of which the anterior one is semicircular including the ocular tubercle, the intermediate one transverse, and the posterior one recurved; *ocular tubercle* prominent, slightly contracted at base, crowned with from four to six more conspicuous, acute spines; *clypeus* not elevated, concave beneath the obtuse tip; *feet*, second pair about fifteen times as long as the body; *tarsi* capillary, articulations not contracted.

Length, female nearly one-fifth of an inch. Male much smaller.

The armature of the ocular tubercle is obsolete in the male, and in this sex there are generally two